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ABSTRACT

The significance of study method inventories in higher education is explored. A brief history of study skills inventories is presented along with justifications for using a study method approach. Research indicates the student most likely to be more successful than others may exhibit better study habits and adapt more easily to academic norms and requirements of the college. Superior students are more self-confident concerning ability and have the personality characteristics for successful independent study. One might conclude that a study habits inventory can provide information about students not indicated by ability measures. Study method inventories may be identifying a proclivity for academic by tapping motivational traits. (Author/RC)

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# An Appraisal of Study Methods Inventories

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ABSTRACT

This article reports on the significance of study method inventories in higher education. A brief history of study skills inventories is presented along with justifications for using a study method approach. Research indicates the student most likely to be more successful than others, may exhibit better study habits, and adapt more easily to academic norms and requirements of the college. Superior students are more self-confident concerning ability and have the personality characteristics for successful independent study. One might conclude that a study habits inventory can provide information about students not indicated by ability measures. Study method inventories may be identifying a proclivity for academic achievement by tapping motivational traits.

## Introduction

Identifying potentially good students has been attempted through study methods inventories. These inventories may be identifying a proclivity for academic achievement by tapping motivational traits. Although study methods inventories have been successful in adding to predictive formulas beyond ability measures, conceptually there may not be general agreement about what is being measured (motivational factors, attitudes, interests or values). This presents a difficult and complex question to resolve.

Numerous researchers have indicated that teaching study strategies to a college population can make a difference in performance. In 1930, Weinland reported on the characteristics of good students and found they were self-reliant, avoided distractions, alternated tasks frequently, worked when interest in the subject matter was low, kept complete notes, read rapidly and belonged to social groups. Weinland (1930) concluded that students could be more efficient if they were given training in how-to-study. Carter (1948), Danskin and Burnett (1952), Maclachlan and Burnett (1954), Davie (1961), Pond (1964), Goldman and Hudson (1973), Goldman and Warren (1973), and Treppa (1973) found similar characteristics and concluded that most students could profit from pointers on efficient study habits. Observations of superior students indicate they are generally better organized while accomplishing academic tasks such as taking notes, working on examinations, and studying for assignments (Carter, 1948; Davie, 1961; and Pond, 1964).

Davie (1961), in reviewing the literature of superior students at Yale, found them to be serious, academically-oriented, upwardly mobile students whose major capabilities, interests, experiences and satisfactions lie in academic as opposed to non-intellectual life activities. In general, superior students exhibit habits or traits which are synonymous with effective study methods.

The History of Study Methods Inventories

In 1933, Wrenn published one of the first study habits inventories in the United States (Brown & Holtzman, 1955). Wrenn's inventory was originally designed for men, but was modified later for women (Wrenn & Humer, 1941). An attempt was made to determine the extent to which study habit items could be used to predict academically successful or unsuccessful students. Wrenn believed study habits might correspond to academic success if ability was controlled. The work done by Wrenn in the 1930s and 40s was expanded by other researchers interested in study methods. Brown and Holtzman have concentrated on study methods inventories and found that attitudes toward the academic environment are significantly related to achievement (Brown, 1972). The Brown-Holtzman Survey of Study Habits and Attitudes (SSHA) is generally acknowledged as one of the best study habit attitude inventories in the United States.

Brown and Holtzman introduced a questionnaire concerning study habits and attitudes in 1953; the original inventory had 75 items. There have been several revisions (the

most recent in 1967), and the length of the inventory is now 100 items. This inventory which is widely used as a research tool has four scales:

1) Work methods - use of effective study procedures, skill and efficiency in doing academic assignments;

2) Delay avoidance - promptness in completing assignments and ability to resist distractions;

3) Teacher approval - feelings and opinions about teachers, their classroom behavior, and their methods;

4) Educational acceptance - approval of educational objectives, practices and requirements.

The scales of work methods and delay avoidance are classified as study habits. Teacher approval and educational acceptance scales are classified as study attitudes.

There have been numerous research studies that link scores on the Brown-Holtzman SSHA with academic success (Holtzman, et al., 1954; Brown & Holtzman, 1956; Ikenberry, 1966; Pepper, 1970; Brown, 1972; Goldfried & Zurilla, 1973; and Shaffer, 1973). One of the purposes of the SSHA is to identify students whose study habits and attitudes are different from those of students who earn high grades. The SSHA has been found to have a low correlation with typical measures of scholastic ability (.07 to .17) and a moderate correlation with grade point average (GPA)(.36) (Higgins, 1965). A major weakness of the SSHA is that responses can be manipulated by the student at will. Accurate responses on certain items may require insight beyond the student's capability (Roark & Harrington, 1969).

In England, Entwistle, et al., (1971) provided a detailed report on a new study habits inventory developed for British students in higher education. This inventory is called a Student Attitudes Inventory (SAI) and has 47 true/false items with four scales:

1) Motivation - 14 questions
2) Study methods - 14 questions
3) Examination technique - 9 questions
4) Lack of distractions - 10 questions

The items were initally allocated to two scales (motivation and study methods) (Entwistle & Wilson, 1970 and Entwistle & Entwistle, 1970). The items in the examination technique scale had been previously allocated to the study methods scale. The questions composing the lack of distractions scale were taken from the motivation scale. Validity was inferred from correlations with the Brown-Holtzman scale (.77), independent measures of hard work (hours studied) and the criterion measure of academic performance. In 1970, Cowell used the SAI and the Brown-Holtzman scales with 124 students from two technical colleges to provide evidence on reliability and validity.

Entwistle, et al., (1971) used 898 university students, 562 college of education students and 190 students in polytechnics and colleges of technology for the sample. The motivation and study methods scales showed the most consistent relationships with the criteria of academic performance. The lack of distractions scale produced the lowest correlations with the criteria of academic performance. Thompson

(1975) provides a detailed report on the development of the Entwistle SAI and its use with a community college population in the United States.

Entwistle and Entwistle (1970) found that successful students plan work carefully, think ahead, are conscientious, independent, self-confident, and recognize the importance of finding suitable conditions for effective study. Entwistle and Wilson (1970) found that motivation and study methods are related to academic performance.

Reasons for Analyzing Study Methods

The logic for using study methods as a predictive variable in college is related to the environmental differences between high school and college. In public high schools, students receive greater support from their teachers. College teachers present more depth and expect independent work from their students. The need for independent study increases as the student progresses in higher education. It is essential for college and university students to adapt quickly to the new learning environment and to accept responsibility for academic development. The student most likely to be more successful than others, may exhibit better study habits, and adapt more easily to academic norms and requirements of the college. Consequently, the student may become more self-confident concerning ability and have the personality characteristics for successful independent study (Hewitt, 1973).

Study habit inventories should correlate higher with

measures of scholastic aptitude. One is attempting to identify a factor that is not related to aptitude, but will increase predictive precision. Several researchers have worked on this problem besides Wrenn, Brown and Holtzman (Brooks & Heston, 1945; Carter, 1950; Michael 1952; Cassel & Pauk, 1971; Entwistle, 1971; Michael, et al., 1971; Hinrichsen, 1972; Miller & Michael, 1972; and Thompson, 1975).

How-to-study manuals and study skills courses have been popular for a number of years. Thirty-eight how-to-study manuals were published between 1926 and 1939 (Laycock & Russell, 1941). Brown and Holtzman (1955) stated that more than 200 how-to-study manuals were published between 1926 and 1955. In 1960 Entwistle reviewed the literature, and made evaluations of 22 study skills courses. Entwistle concluded:

1) A study skills course will usually be followed by improvement.

2) A course will be most beneficial for students desiring to take it.

3) Students wishing to take a study skills course but prevented from doing so, and therefore presumably of comparable motivation to those enrolled, fail to show significant improvement.

4) Any gains noted will not necessarily be related to either the content or the duration of the course.

Biggs (1970a, 1970b) questioned the value of straightforward study skills programs after reviewing research that reported null relationships between study behavior and performance. This research is limited. Biggs (1970a, 1970b) and Child (1970) stated it is unlikely that there is such

a thing as good study behavior applying to most people and to most courses. This position opposes a massive amount of research on the study patterns of superior versus failing students. Specialists in remedial courses have indicated that one needs to understand the dynamics of personality, motivation and interpersonal relations to improve study skills behavior and raise GPA, but it can be accomplished (Berg, 1964; Spache, 1964; Pauk, 1965b; Schick, 1968; Belcher, 1971; and Pauk, 1973). Individual treatments based on diagnostic accounts of ability and study habits attitudes have helped the high risk student.

High risk students are over represented in two-year institutions of higher learning. Pauk (1973) stated the community college student needs to know two skills for achieving academic success. First, the student needs to know how to master textbook assignments, and second, the student needs to know how to master classroom lectures. These tasks are not easily taught in the format of systematic study skills courses (SQ3R, OK4R or OAWET systems). Pauk (1965a) questioned the effectiveness of packaged study skills courses without professional attention given to student characteristics.

In summary, one might conclude that a study habits inventory does provide information about students not indicated by ability measures. Research indicates students can be helped with a study skills approach in remedial training. There is evidence that students can improve upon their academic achievement through effective study habits.

Superior students with effective study habits are generally better organized, self-reliant, avoid distractions, are academically oriented, independent and recognize the importance of finding suitable conditions for study.

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